

**DETAILED PROJECT REPORT  
AND  
ENVIRONMENTAL ASSESSMENT**

**AD-A252 241**



**SECTION 14 EMERGENCY STREAMBANK PROTECTION**

**TURKEY RIVER**

**CLAYTON COUNTY ROAD 1712**

**OSTERDOCK, IOWA**

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JUN 25 1992  
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**NOVEMBER 1991**

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CLAYTON COUNTY ROAD 1712  
OSTERDOCK, IOWA




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NOVEMBER 1991

## ACKNOWLEDGEMENT

Many members of the Rock Island District assisted in the preparation of this report. Primary study team personnel who are familiar with the technical aspects of the study are listed below:

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**US Army Corps  
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**Rock Island District**

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TO SIGN  
OUR WORK**

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## SYLLABUS

This report addresses the problem of streambank erosion on the left descending bankline of the Turkey River paralleling County Road 1712 approximately one-half mile northwest of Osterdock, Iowa, sec. 35, T. 92 N., R. 3 W., Jefferson Township, Clayton County, Iowa. The study area involves approximately 800 linear feet of bankline which severely eroded during the past 2 years due to disastrous flood events in August 1990 and June 1991.

Under the authority of Section 14 of the 1946 Flood Control Act, as amended, representatives of the Rock Island District, U.S. Army Corps of Engineers, made a site visit to Clayton County, Iowa, in August 1991 to investigate the severity of the erosion along the "farm-to-market" road just northwest of the town of Osterdock.

This Detailed Project Report recommends minimal clearing on the bank and placement of approximately 5,000 tons (3,333 cubic yards) of Iowa Class "D" riprap to provide a 2H on 1V slope, from the top of bank to the toe, for approximately 800 linear feet. Additional riprap protection will be placed at both ends of the project. The total estimated cost of the project is \$138,000, with a benefit-to-cost ratio of 2.8, and therefore satisfies the criteria for Federal participation in the project's construction.

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SECTION 1 - INTRODUCTION

**STUDY REQUEST**

In a letter dated December 27, 1990, the Clayton County, Iowa, Board of Supervisors, represented by the County Engineer, requested assistance from the U.S. Army Corps of Engineers, Rock Island District, under the authority provided by Section 14 of the 1946 Flood Control Act, as amended. The request was in regard to erosion along the left descending bankline of the Turkey River which parallels County Road 1712, just west/northwest of Osterdock, Iowa.

The Rock Island District requested funds to initiate a reconnaissance study, and the work allowance was received in June 1991.

Corps representatives made a site visit in July 1991 to determine the severity of the erosion problem and possible alternatives to be considered during a reconnaissance study phase.

**STUDY AUTHORITY**

The authority for this study and report is Section 14 of the 1946 Flood Control Act, as amended by the Water Resources Development Act of 1986. The authority, as amended, states:

That the Secretary of the Army is authorized to allot from any appropriations heretofore and hereinafter made for flood control, not to exceed \$12,500,000 per year, for the construction, repair, restoration, and modification of emergency streambank and shoreline protection work to prevent damages to highways, bridge approaches, public works, churches, hospitals, schools, and other nonprofit public services, when in the opinion of the Chief of Engineers such work is advisable: Provided, that no more than \$500,000 shall be allotted for this

purpose at any single locality from the appropriations for any one fiscal year.

## **STUDY SCOPE**

### **STUDY AREA**

The study area, as shown on plate 1, is located along the left descending bankline of the Turkey River, just west/northwest of Osterdock, Iowa, in sec. 34 and 35, T. 92 N., R. 3 W., Jefferson Township, Clayton County, Iowa.

The Turkey River, a tributary to the Mississippi River, parallels County Road 1712 for approximately 800 linear feet at the study site and flows in a southeasterly direction through Osterdock, Iowa.

The height of the bankline is between 18 to 22 feet, with the top 5 feet of the bank being vertical and the remainder presenting a 2.5H on 1V slope (see plate 2). The soil is a sandy, silty type with intermittent areas of sandstone. The area at the study site has a high timberline bluff, with the road at the base, and the river runs parallel to the road and bluff, leaving no room for road relocation.

### **DETAIL OF INVESTIGATION**

This Emergency Detailed Project Report and Environmental Assessment is intended to serve as the decision document, with sufficient detail to allow approval of the project and initiation of the preparation of plans and specifications.

## **RELATED STUDIES, REPORTS, AND EXISTING WATER PROJECTS**

A Section 205 Flood Control Study has been initiated for the city of Elkader, which is upstream of the study site approximately 18 miles. The county requested Section 14 Emergency Streambank Protection assistance for several areas along the Turkey River within Clayton County.



## SECTION 2 - PLAN FORMULATION

### PUBLIC CONCERNS

The Clayton County Engineer has been concerned about continued erosion along the Turkey River bankline that parallels County Road 1712, which is a farm-to-market road. The county has had continuous erosion problems along roads paralleling the Turkey River. The past 2 years, the county has experienced two disastrous flood events. Although the county has made every effort to protect their roads, the disastrous flooding events in August 1990 and again in June 1991 have financially burdened the county, and they are unable to adequately protect all the damaged areas.

The public is concerned because this road provides access to the town of Osterdock from the west. The county is concerned because there is no room to relocate the road.

### EXISTING CONDITIONS

Approximately 800 linear feet of roadway is being threatened by bankline erosion. In some areas, the top of bank is cutting into the road shoulder. The past 2 years have been declared flood disaster years in Clayton County, and present conditions are such that the water is flowing at a higher elevation and with higher velocities, thereby contributing to continuous erosion at the study site.

### FUTURE CONDITIONS WITHOUT PROJECT

The historical erosion rate is calculated at 1.5 foot per year. If immediate action is not taken to curtail further erosion, it is very probable that the integrity of the county road will be jeopardized within the year because of the continual bankline erosion. With the loss of this road, the public will be forced to use an alternative route to market and town.

### PLANNING OBJECTIVES

#### NATIONAL OBJECTIVES

The plan formulation process to accomplish flood damage reduction is formulated and directed by a national planning objective, consistent with

protecting the Nation's environment, pursuant to national environmental statutes, applicable Executive Orders, and other Federal planning requirements.

Water and land related resources project plans should be formulated to alleviate problems and to take advantage of opportunities in ways that contribute to that objective.

Contributions to the National Economic Development (NED) are increases in the net value of the national output of goods and services, expressed in monetary units. Contributions to NED are the direct benefits that accrue in the planning area and the rest of the Nation, and include increases in the net value of those goods and services that are marketed and those that may not be marketed.

#### **SPECIFIC OBJECTIVES**

Specific objectives include preventing economic losses due to failure and loss of the county road and minimizing adverse impacts of flood damage reduction measures on the resources.

#### **PLANNING CONSTRAINTS**

This study is constrained by all laws of the United States and the State of Iowa, all Executive Orders of the President, and all engineering regulations of the Corps of Engineers. This study also is constrained by the study authority as stated in Section 1 of this report.

#### **ALTERNATIVE SOLUTIONS**

The alternatives considered in detail to curtail the erosion in the study area were: riprapping existing bankline and placing a fiber-formed, concrete-filled mattress.

#### **SELECTED PLAN**

Analysis revealed that the riprap protection along approximately 800 linear feet of the bankline, with additional riprap protection at both ends of the project, would be the least costly alternative and would maximize the net benefits. This alternative would effectively curtail the severe erosion which is an immediate threat to the integrity of the county road.

The proposed work consists of bank clearing, placing Iowa Class "D" riprap on rock fill along the entire reach of 800 feet, and shaping to provide a 2H on 1V slope (see plate 2). Additional protection will be provided on both ends of the project, in a 4' x 4' x 40' trench filled with riprap, to prevent cutting behind the project site.

The total estimated amount of material to be placed beneath the calculated ordinary high water (OHW) elevation of 626.3 feet National Geodetic Vertical Datum (NGVD) is 2.3 cubic yards per linear foot of river bank.

The local sponsor, Clayton County, acting through the Board of Supervisors, will be responsible for cost-sharing construction of the project and 100 percent of the operation and maintenance of the completed project, as prescribed by the Corps of Engineers.

## HYDRAULIC ANALYSIS AND BANK PROTECTION DESIGN

### Flow Analysis

A flow frequency relationship is readily available for the Turkey River at the USGS gaging station No. 05412500 at Garber. This relationship is shown graphically on plate 4. The gage is close to the erosion site. Therefore, the flow frequency relationship at the gage can be transferred to the erosion site using the drainage area ratio to the 0.55 power. This exponent is typical for this region of Iowa. The gage values and erosion site values are shown below in table 1.

TABLE 1

#### *Flow Frequency*

<u>Frequency</u>	Garber Gage	Erosion Site
	1,525 sq mi	1,602 sq mi
	<u>Flow</u>	<u>Flow</u>
2-yr	15,700	16,100
5-yr	21,400	22,000
10-yr	25,000	25,700
50-yr	32,200	33,100
100-yr	35,200	36,200

### Flooding Levels

An HEC-2 backwater deck was developed from bank surveys and USGS quadrangle sheets. The above flow values were input into the HEC-2 deck to derive the flooding levels listed in table 2 below.

TABLE 2

*Flooding Levels*

<u>Frequency</u>	<u>Flood Level</u>
2-yr	640.4
5-yr	641.8
10-yr	642.5
50-yr	643.8
100-yr	644.3

Ordinary High Water Elevation

The ordinary high water elevation corresponds to the 25-percent duration elevation, or the elevation which is equalled or exceeded 25 percent of the time. An analysis of historical daily flow records at the Garber gage gives a 25 percent duration flow value at the gage of 1,000 cfs. This value can be transferred to the erosion site by the ratio of the drainage areas. This computation gives a 25 percent duration flow at the erosion site of 1,040 cfs. An HEC-2 backwater deck was developed from bank surveys and USGS quadrangle sheets. Inputting the 25 percent duration flow into the HEC-2 deck gives an ordinary high water elevation of 626.3.

Alternatives

The one alternative which was investigated in detail for protecting the road from further erosion was placing riprap on the bank. This method has been used successfully in other nearby reaches of the Turkey River. Therefore, other methods of bank protection were not investigated.

Bank Protection Evaluation

The riprap protection was designed in accordance with procedures outlined in the revised chapter 14 of EM 1110-2-1601. The plates and tables referred to below are from this publication. Average channel velocity was developed from an HEC-2 run and was 3.3 fps. Using plate 14-3, toe velocity was estimated at 5.3 fps. From plate 14-7, the required minimum  $d_{30}$  was 0.3 foot. The recommended slope at which the riprap should be placed is 2.0H on 1V. As shown on table 14-1, a 12-inch-thick layer of 165 pcf riprap provides a minimum  $d_{30}$  of 0.48 foot and therefore satisfies the above requirements. A 6-inch-thick bedding layer should be provided beneath the riprap. Experience with previous nearby projects on the Turkey River has shown that 18 inches of Iowa Class D riprap also would provide

adequate protection. The following is the required minimum riprap gradation:

<u>Percent Lighter by Weight</u>	<u>Limits of Stone wt.. lbs.</u>	<u>Class D Stone wt.. lbs.</u>
100	86-35	250
50	26-17	90
15	13-5	-
5	-	5

The riprap should be placed to the top of the bank. Extra protection at the toe of the bank should not be necessary. A field inspection indicated that previous erosion has probably been caused by piping and subsequent sloughing. The bedding layer discussed above should address the piping problem. The bank toe appears to be very stable; toe erosion should not be a problem at this site.

#### ENVIRONMENTAL ASSESSMENT

##### Purpose and Alternatives

The purpose of this Environmental Assessment (EA) is to evaluate the impacts of various measures proposed to prevent the failure, due to erosion, of a section of County Road 1712 along the Turkey River (plate 1). The alternatives considered include: (1) clearing, shaping, and riprapping the river bank; (2) placing a concrete mattress; and (3) no action. The no action alternative was rejected because continued erosion at the site would result in unacceptable impacts on water quality and aquatic organisms and would lead to the loss of the road. The preferred alternative, clearing, shaping, and riprapping, is described in detail in Section 2 of this report.

An environmental review of the preferred alternative indicates that there would be no significant effects on the environment, with any effects being short-term and minimal. Therefore, an Environmental Impact Statement (EIS) will not be prepared for this project. Because the proposed action is subject to the provisions of Section 404 of the Clean Water Act, a Section 404(b)(1) evaluation has been prepared (appendix A). Application has been made for Section 401 certification.

## Relationship to Environmental Requirements

The proposed action would comply with Federal environmental laws, Executive Orders and policies, and State and local laws and policies, including the Clean Air Act, as amended; the Clean Water Act, as amended; the Endangered Species Act of 1973, as amended; the Fish and Wildlife Coordination Act of 1958, as amended; the Land and Water Conservation Fund Act of 1966, as amended; the National Environmental Policy Act of 1969; the National Historic Preservation Act of 1966, as amended; Executive Order 11988, Protection of Floodplain Management; and Executive Order 11990, Protection of Wetlands.

The proposed project would result in the loss of a small amount of land currently used for agriculture. However, due to frequent flooding and the inability of the location to produce sustained high quality or high yields, the District Conservationist for Clayton County concurs with the District's opinion that the proposed action would not result in the conversion of prime, unique, or State or locally important farmland to nonagricultural uses; therefore, the project is in compliance with the Farmland Protection Policy Act of 1981 (appendix B).

The Turkey River is currently a candidate for Federal listing as a National Wild or Scenic River; hence, the proposed action is being coordinated with the National Park Service in accordance with the provisions of the Wild and Scenic Rivers Act of 1968.

## Environmental Setting

The Turkey River is a tributary of the Mississippi River and flows in a generally southeasterly direction through the northeast corner of Iowa. The surrounding landscape is composed of timbered, unglaciated areas characterized by steep limestone bluffs that rise above the valley floor. Agricultural fields are interspersed on the floodway.

## Natural Resources

The project site is located on an outside bend of the left descending bank of the river channel, approximately one-half mile upstream of Osterdock, Clayton County, Iowa (plate 1). Substrate at this location is primarily silty sand with scattered areas of gravel and rock. A detailed description of existing conditions at the project site is given earlier in this section.

Vegetation along the streambank consists of a mixture of weedy species that is typical for disturbed roadside areas. Interspersed along the streambank are occasional woody species such as silver maple (*Acer saccharinum*) and

box elder (*Acer negundo*) saplings. Herbaceous species present include: reed canary grass (*Phalaris arundinacea*), barnyard grass (*Echinochloa crusgalli*), foxtail grass (*Setaria* sp.), pigweed (*Amaranthus* sp.), lamb's quarters (*Chenopodium album*), false nettle (*Boehmeria cylindrica*), velvet-leaf (*Abutilon theophrasti*), common ragweed (*Ambrosia artemisiifolia*), giant ragweed (*Ambrosia trifida*), lady's thumb (*Polygonum persicaria*), smartweed (*Polygonum* sp.), monkey-flower (*Mimulus ringens*), false pimpernel (*Lindernia dubia*), Queen Anne's lace (*Daucus carota*), and common milkweed (*Asclepias syriaca*). This habitat provides limited food and cover for wildlife species that utilize open riparian corridors.

Part of the project area has been denuded of vegetation as a result of the placement of emergency rock/dirt fill when the road was threatened from high water.

There will be no long-term loss (25 years or longer) of vegetation as a result of this project.

#### Endangered Species

Three federally listed endangered species are listed for this area: bald eagle (*Haliaeetus leucocephalus*), Iowa Pleistocene snail (*Discus macclintocki*), and northern wild monkshood (*Aconitum noveboracense*). Suitable habitat for the Iowa Pleistocene snail and monkshood, namely algific slopes, is not found at the project site. Eagles are restricted to wintertime residence along the Mississippi River and are not found in the project vicinity and will not be impacted. Therefore, no impacts to any populations of federally listed rare, threatened, or endangered species are expected to occur from the proposed action.

Coordination with the Iowa Department of Natural Resources indicated that the project area contains no known populations of any State listed rare, threatened, or endangered species (appendix B).

#### Environmental Effects

No significant adverse impacts to natural resources would result from construction of the proposed project. Because the project area is a county road, local wildlife is adapted to some level of disturbance. Therefore, project construction activities will have only short-term and temporary impacts to wildlife.

Some initial, minor loss of benthic organisms may result from construction of the proposed project. However, after placement of riprap is completed, the affected area should quickly re-colonize. Increased interstices will be provided by the rock scour protection and will enable crevice-inhabiting

invertebrates to re-colonize and maintain or increase in-stream biodiversity compared to pre-construction levels.

Completion of this project would not negatively impact recreational use of the river.

Temporary increases in turbidity may occur during project construction. However, once construction is complete, turbidity will return to pre-construction levels or lower since sediments will no longer be eroding into the river system at this site. During the construction phase, noise levels will increase and air quality will decline. These impacts are minor and will not permanently affect the area, since the project is not located near residences or businesses.

No mining activity is present at the project site, and no mineral resources will be affected by the proposed project.

#### Economic and Social Effects

The socioeconomic impacts associated with providing streambank erosion protection for County Road 1712 would be positive. Community cohesion in the project area would be positively affected; the proposed streambank protection project would provide for continued use of the roadway, eliminating the need for travelers to use a longer, more time consuming detour route. In addition, the project would require no residential relocations and would result in no significant impacts to community or regional growth.

Services to and from the affected area would be positively impacted by the project. Placement of streambank protection would maintain the shortest access route to the affected area, avoiding additional travel expenses and delays in emergency vehicle response times. Public facilities would benefit from reduced damages from flood-related erosion. The project would eliminate the potential life, health, and safety threat before it necessitated the closing of the roadway. (The roadway would be closed to traffic once bank erosion posed a threat to travelers.)

The project would result in no significant impacts to property values or related tax revenues. Project construction would result in no noticeable impacts to employment or the labor force in Clayton County, Iowa. No changes in business or industrial activity would be noticed during or after construction, and no business or farm relocations would be required.

Heavy machinery would generate temporary increases in noise levels during construction; however, disturbance to residents and businesses would be minimal. No significant long-term noise impacts would result in the project area; however, traffic-related noise levels would increase along the detour route. The aesthetics of the affected waterway property would



not be adversely impacted; the existing shoreline is badly eroded and features little vegetative cover.

### Cultural Resources

The State Historical Society of Iowa, Historical Division of the Department of Cultural Affairs, found that there are no historic properties which might be affected by the proposed undertaking. However, if the project work uncovers an item or items which might be of archeological, historical, or architectural interest, or if important new archeological, historical, or architectural data come to light in the project area, reasonable efforts should be made to avoid or minimize harm to the property until the significance of the discovery can be determined.

### Coordination

Coordination with governmental agencies and the public has been maintained during the planning process. In accordance with the provisions of the Fish and Wildlife Coordination Act, the following agencies were contacted by telephone: the Iowa Department of Natural Resources, the U.S. Fish and Wildlife Service, the Clayton County Field Office of the Soil Conservation Service, and the Clayton County Conservation Board. The U.S. Environmental Protection Agency also was contacted by telephone under the provisions of the National Environmental Policy Act and the Clean Air Act. The State Historical Society of Iowa concurred with the District's determination that no significant cultural resources would be affected by the project in a letter dated September 18, 1991 (appendix B). The National Park Service was contacted as required by the National Wild and Scenic Rivers Act. The agencies contacted agreed with the evaluation that the net effect of the proposed action would not be significant (appendix B). Individual agency concerns were addressed earlier in this document.

### **REAL ESTATE REQUIREMENTS**

The Clayton County Road 1712 Section 14 Emergency Streambank Protection project, as proposed in this report, involves one ownership. The lands required for the protection of the left descending bankline of the Turkey River, as described in this report, are currently owned by the sponsor and are adequate for project execution. Since the sponsor (Clayton County, Iowa) currently owns the lands which are part of the facility to be protected, the sponsor will not receive credit for these lands.

## ECONOMIC ASSESSMENT

### Methodology

This study assesses the feasibility of providing protective action necessary to prevent further bank erosion of a county road along the Turkey River in Clayton County, Iowa. The project site is located near Osterdock, Iowa. June 1991 flooding caused extensive damage to the bankline, and the road is being endangered by undercutting.

This study recommends placing riprap along 800 linear feet of the bankline. The annual benefits and costs of the action were computed using September 1991 price levels and an 8-3/4 percent discount rate. The period of analysis is 50 years.

### Benefits of Protective Action

The benefits of protective action are derived from a consideration of what would occur if no action were taken. Four potential categories of benefits were examined: (1) detour; (2) road maintenance costs; (3) land loss; and (4) redevelopment.

(1) Detour Costs - Without protective action, the erosion will continue and cause failure of the county road during the project base year (1991), closing it to traffic. Without replacement of the road, motorists will be forced to use a longer, alternate access route throughout the 50-year period of analysis. Motorists using the detour route will incur additional expenses related to costs for operating vehicles and opportunity of time costs. Benefits derived from avoided detour costs were computed based on the following:

(a) In 1990, the average daily traffic count on the county road was 50 vehicles, as reported by the Clayton County Engineer. This average daily traffic was broken down by vehicle type, detour days per year, and average number of trips per detour day (see table 3).

(b) The most direct detour route would necessitate that an additional 4 miles be driven. Other detour routes would further increase detour mileage. At an average of 30 mph, detour time is 0.13 hour.

(c) Farm machinery, heavy trucks, and mail vehicles would have no passengers other than the driver. Passenger cars would have an average of 2 persons; emergency vehicles would have 2 occupants. School buses would have a driver and an average busload of 16 passengers.

TABLE 3

*Analysis of Average Annual Traffic*

<u>Vehicle Type</u>	<u>Detour Days Per Year</u>	<u>Average Daily Number of Trips</u>	<u>Total Annual Number of Trips</u>
Passenger Cars	365	42.4	15,476
Heavy Trucks	302	3.2	966
School Bus	180	5.0	900
Emergency Vehicle	365	1.0	365
Mail Vehicle	302	1.0	302
Farm Machinery	118	2.0	<u>236</u>

Total Annual Number of Trips of All Vehicles - 18,245

18,245 - 50 vehicles/day  
365 days

(d) The 1991 average variable cost for operating passenger cars and mail vehicles is approximately \$0.29/mile; buses, emergency vehicles, heavy trucks \$0.61/mile; and farm machinery \$1.02/mile. These figures are based on average maintenance, repair, accessory, tire, fuel, and oil costs, including taxes on gasoline, oil, and tires (see table 4).

TABLE 4

*Summary of Vehicle Operating Costs  
Resulting From a 1-Year Road Detour*

<u>Vehicle Type</u>	<u>Extra Mileage Per Day (A) (1)</u>	<u>Total Annual Number of Trips (B)</u>	<u>Operating Cost Per Mile (\$) (C)</u>	<u>Total Additional Operating Cost Per Year (\$) (AxBxC)</u>
Passenger Car	4	15,476	0.29	17,952
Heavy Truck	4	966	0.61	2,357
School Bus	4	900	0.61	2,196
Emergency Vehicle	4	365	0.61	891
Mail Vehicle	4	302	0.29	350
Farm Machinery	4	236	1.02	<u>963</u>

Total Cost (\$) - 24,709  
(rounded) - 24,700

(1) one-way detour mileage is 4 miles.

(e) The opportunity cost of time is the value of work or leisure activities foregone for travel purposes. For passenger cars, the value of time for adults and children was assumed to equal 1/3 and 1/12 of the average hourly general wage rate, respectively. The Clayton County, Iowa, 1991 average hourly wage rate is \$7.30, with 40 percent of the area residents being under the age of 18. Therefore, the opportunity cost of time for passenger cars was assumed to be \$1.70/hour/occupant ( $\$7.30 \times 0.6 \times 1/3$ ) + ( $\$7.30 \times 0.4 \times 1/12$ ) = \$1.70).

(f) Approximate hourly wage rates were used as values of time for heavy truck operators (\$6.50), school bus drivers (\$5.32), mail carriers (\$12.00), farm machine operators (\$5.70), and emergency vehicle drivers (\$8.34). School buses require an opportunity cost of time amounting to \$15.05 per hour for 1 driver and 16 children ( $\$5.32 + 7.30 \times 1/12 \times 16 = \$15.05$ ) (see table 5).

(g) As shown in tables 4 and 5, detour costs resulting from increased vehicle operating costs and opportunity of time costs are \$24,700 and \$10,900, respectively.

TABLE 5

*Summary of Opportunity of Time Costs  
Resulting From a 1-Year Road Detour*

<u>Vehicle Type</u>	<u>Traveler Time Per Trip in Hours (A)</u>	<u>Total Annual Number of Trips (B)</u>	<u>Opportunity Time Cost Per Hour (C)</u>	<u>Total Opportunity Time Cost Per Year (AxBxC)</u>
Passenger Car	0.13	15,476	\$ 3.40	\$ 6,840
Heavy Truck	0.13	966	6.50	816
School Bus	0.13	900	15.05	1,761
Emergency Vehicle	0.13	365	16.68	791
Mail Vehicle	0.13	302	12.00	471
Farm Machinery	0.13	236	5.70	<u>175</u>
			Total Cost (rounded)	\$10,854 10,900

(2) Road Maintenance - Closure of the county road along the Turkey River near Osterdock would result in no change in road maintenance cost. The annual maintenance cost for the detour route would increase by a dollar amount equal to the decrease in maintenance costs for the closed roadway, as explained by the Clayton County Engineer.

(3) Land Loss - Benefits derived from avoided land loss are not applicable in this instance.

(4) Redevelopment Benefits - Clayton County, Iowa, does not qualify for redevelopment benefits.

(5) Total Benefits - Total annual benefits from providing streambank erosion protection are \$35,600.

#### Cost of Recommended Action

The Rock Island District identified the least-cost alternative for protecting the county road along the Turkey River from failure caused by bank erosion. The preventive action involves riprapping the bank, along with end protection, to prevent undercutting of the project. The estimated total first cost is \$138,000. Detailed project first costs and average annual costs, computed at an 8-3/4 percent discount over a 50-year period of analysis, are shown in tables 6 and 7. Annual maintenance was calculated assuming that 50 percent of the riprap would be replaced in 25 years (in year 25 following the base year of the project). Because of the short construction period, no interest during construction was calculated. A summary of benefits and costs for the recommended action is presented in table 8. As shown, the project is economically justified and is the NED plan.

TABLE 6

*Detailed Estimate of Construction Costs  
(September 1991 Price Levels)*

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost (\$)</u>	<u>Total Unit Cost (\$)</u>
Riprap	5,000	ton	20	100,000
Bank Preparation (include tree removal)	800 LF	job	--	1,500
		Subtotal		101,500
		Contingencies		<u>25,500</u>
		Subtotal		127,000
		Engineering and Design		6,000
		Supervision and Administration		<u>5,000</u>
		Total Project Cost		138,000

**TABLE 7***Annual Cost of Recommended Action*

<u>Description</u>	<u>First Cost (\$)</u>	<u>Annual Cost (\$)</u>
Project Cost	138,000	12,300
Operation & Maintenance [(pw25 x .5 x 100,000)CRF]		<u>500</u>
	Total Annual Cost	12,800

**TABLE 8***Summary of Benefits and Costs*

<u>Description</u>	<u>Amount (\$)</u>
Project First Cost	138,000
Annualized First Cost	12,300
Annual Maintenance Cost	500
Total Annual Cost	12,800
Average Annual Benefits	35,600
Net Benefits	22,800
Benefit-to-Cost Ratio	2.8

**SENSITIVITY ANALYSIS**

A sensitivity analysis was performed to determine the effect of less than normal precipitation or drought conditions reducing and/or delaying further erosion. Delaying of project construction for 2 years would result in a benefit-to-cost ratio of 2.3:1, and for 10 years would result in a 1.2:1 benefit-to-cost ratio.

**COST APPORTIONMENT**

Project cost-sharing is in accordance with Public Law 99-662 of the Water Resources Development Act of 1986 and applicable regulations. Total cost apportionment for this project is shown in table 9.

TABLE 9

*Cost Apportionment*

<u>Non-Federal</u> ...	Estimated Total Project Cost	\$138,000
	25 percent cost-share	<u>x 0.25</u>
	Total Non-Federal Cash Contribution	\$ 34,500
<u>Federal</u> .....	Estimated Total Project Cost	\$138,000
	Less Non-Federal Share	34,500
	Total Federal Cost	\$103,500

ABILITY TO PAY ANALYSIS

Section 103 of Public Law 99-662 requires the Corps of Engineers to evaluate a local sponsor's ability to pay the required non-Federal costs of a project. The county does not qualify for a reduced cost-sharing formula. The analysis is based on the project benefit-to-cost ratio and the project area per capita income, and is shown in table 10.

TABLE 10

*Ability to Pay Analysis*

Annual Cost	\$ 12,800	Cost and benefits
Annual Benefits	35,600	for flood control
Total Cost	138,000	
Local Share	34,500	
Benefit-to-Cost Ratio	2.8	Sum of State and
State Factor	91.22	County must be less
County Factor	75.47	than 163.2
		Sum is 166.69

Not Qualified

Base Benefits Floor	70%	1/4 Benefit-to-Cost
% Local Share	25%	Ratio
EF	-0.46	Eligibility Factor

FINANCIAL ANALYSIS

Clayton County, Iowa, is the local sponsor and is willing and able to pay its share of the project cost. Funding for the county's share will be obtained from their county roads fund and is available or can be readily obtained when needed.

### SECTION 3 - PLAN IMPLEMENTATION

#### CORPS OF ENGINEERS

This report will be processed for approval of the selected plan of action and the authorization of funding for construction. Upon approval and appropriation of funding by the Office of the Chief of Engineers, the Rock Island District will be responsible for preparation of plans and specifications and construction of the project.

#### COORDINATION

Details of the proposed project have been coordinated with the following Federal, State, and local agencies:

Clayton County, Iowa  
Clayton County Conservation Board  
Iowa Department of Natural Resources  
Iowa State Historical Department, Office of Historic Preservation  
National Park Service  
U.S. Fish and Wildlife Service  
U.S. Environmental Protection Agency

Records of correspondence with members of these agencies can be found in Appendix B - Pertinent Correspondence.

#### CLAYTON COUNTY

In compliance with Section 221 of Public Law 91-611, the county will, prior to the advertisement of any construction contract for the project, enter into an agreement (Local Cooperation Agreement) with the Government, whereby the county pledges to act as local sponsor for the proposed project and carry out the following responsibilities:

- a. Provide during the period of construction a cash contribution of 5 percent of total project costs.
- b. Provide all lands, easements, and rights-of-way, and dredged material disposal areas, and perform all relocations of utilities and facilities (excluding railroad bridges and approaches thereto) determined by the Government to be necessary for construction of the project.
- c. If the value of the contributions provided under paragraphs a. and b. above represents less than 25 percent of total project costs, the county



shall provide, during the period of construction, an additional cash contribution in the amount necessary to make its total contribution equal to 25 percent of total project costs.

d. Hold and save the Government free from all damages arising from the construction, operation, and maintenance of the project, except for damages due to the fault or negligence of the Government or its contractors.

e. Operate, maintain, repair, replace, and rehabilitate the completed project, or functional portion of the project, in accordance with regulations or directions prescribed by the Government.

f. Comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended by Public Law 100-17, and the Uniform Regulations contained in 49 CFR Part 24, in acquiring lands, easements, and rights-of-way for construction and subsequent operation and maintenance of the project, and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.

g. Comply with all applicable Federal and State laws and regulations, including Section 601 of Title VI of the Civil Rights Act of 1964, Public Law 88-352, and Department of Defense Directive 5500.11 issued pursuant thereto and published in Part 300 of Title 32, Code of Federal Regulations, as well as Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army."

h. Contribute all project costs in excess of the Federal statutory limitation of \$500,000.


In addition, the county must grant the Government a right to enter, at reasonable times and in a reasonable manner, upon land which it owns or controls for access to the project for the purpose of inspection and for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the project if such inspection shows that the county for any reason is failing to fulfill its obligations under the Agreement and has persisted in such failure after a reasonable notice in writing by the Government, delivered to the county. No completion, operation, maintenance, repair, replacement, or rehabilitation by the Government in such event shall operate to relieve the county of responsibility to meet its obligations as set forth in the Agreement or to preclude the Government from pursuing any other remedy at law or equity.

The county has stated in a letter of assurance, dated November 15, 1991, that they have reviewed the form Local Cost Sharing Agreement and are willing and able to pay its share of the total project costs. Sufficient funds are available through the county's road use budget, and the cash payment can be deposited directly with the Government or in an escrow account, upon demand by the Government.

The estimated total non-Federal share of the total project costs is estimated to be \$34,500. It is anticipated that the county will need to invest \$200 annually to replace lost riprap during the 50-year project life.

#### SECTION 4 - RECOMMENDATION

I recommend that the plan selected herein, to provide riprap slope protection along the Clayton County road which parallels the Turkey River near Osterdock, Iowa, be implemented as a Federal project, with cost to the United States for construction presently estimated at \$103,500. The plan involves placing riprap along approximately 800 linear feet of the Turkey River bankline paralleling a county road. The road will be protected from damages which would cause failure, keeping the public from entering the city of Osterdock from the west.

  
John R. Brown  
Colonel, U.S. Army  
District Engineer

**FINDING OF NO SIGNIFICANT IMPACT**

**SECTION 14 EMERGENCY STREAMBANK PROTECTION  
TURKEY RIVER, CLAYTON COUNTY ROAD 1712  
OSTERDOCK, IOWA**

In accordance with the National Environmental Policy Act, the Rock Island District, Corps of Engineers, has assessed the environmental impacts of the above project. The intent of this project is to provide emergency bank protection for County Road 1712 along the left descending bankline of the Turkey River approximately one-half mile west of Osterdock, Clayton County, Iowa. The project involves placing approximately 800 linear feet of riprap along the bank.

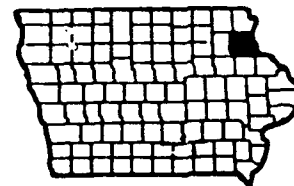
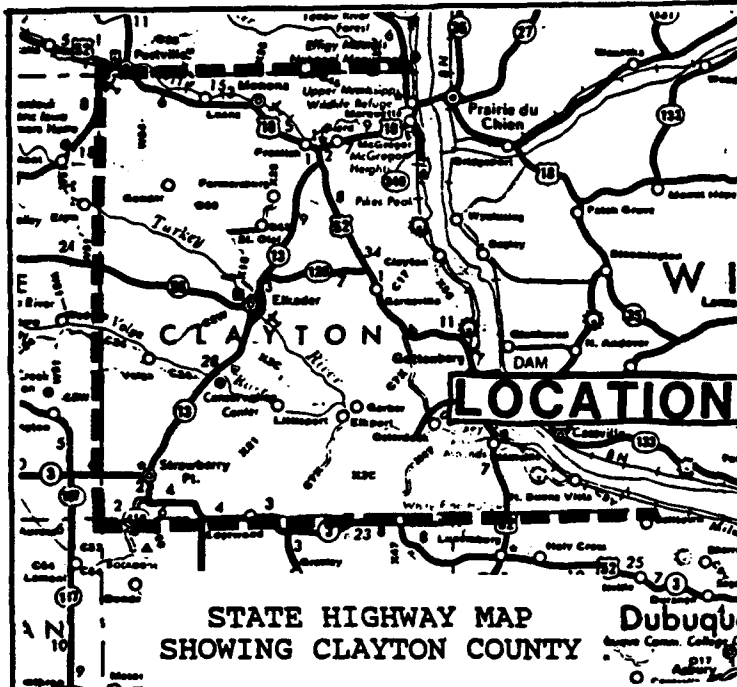
This Finding of No Significant Impact is based on the following factors: the proposed project would have only minor and short-term impacts on fish and wildlife resources and on water quality; the project would protect the county road from future damages due to the eroding bankline; and no significant social, economic, environmental, or cultural impacts are anticipated as a result of the proposed action.

The environmental review process indicates that the proposed action does not constitute a major Federal action significantly affecting the environment. Therefore, preparation of an Environmental Impact Statement is not required. This determination may be reevaluated if warranted by later developments.

---

(date)

John R. Brown  
Colonel, U.S. Army  
District Engineer



## **VICINITY MAP**

IOWA KEY MAP  
SHOWING  
COUNTY LOCATION

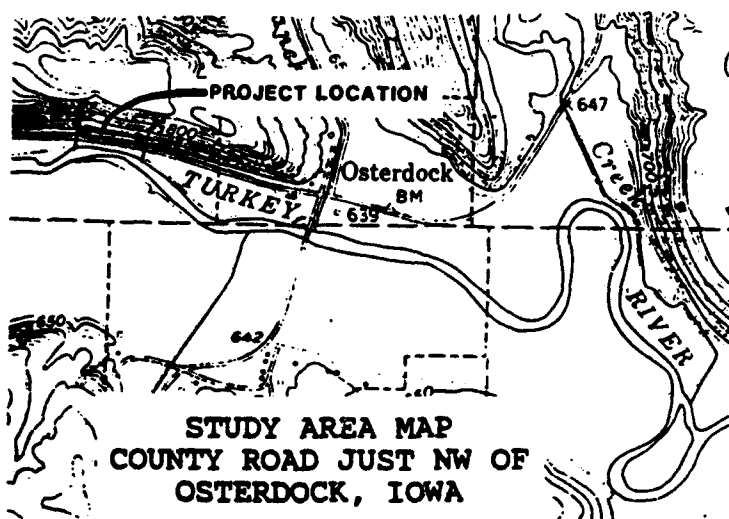
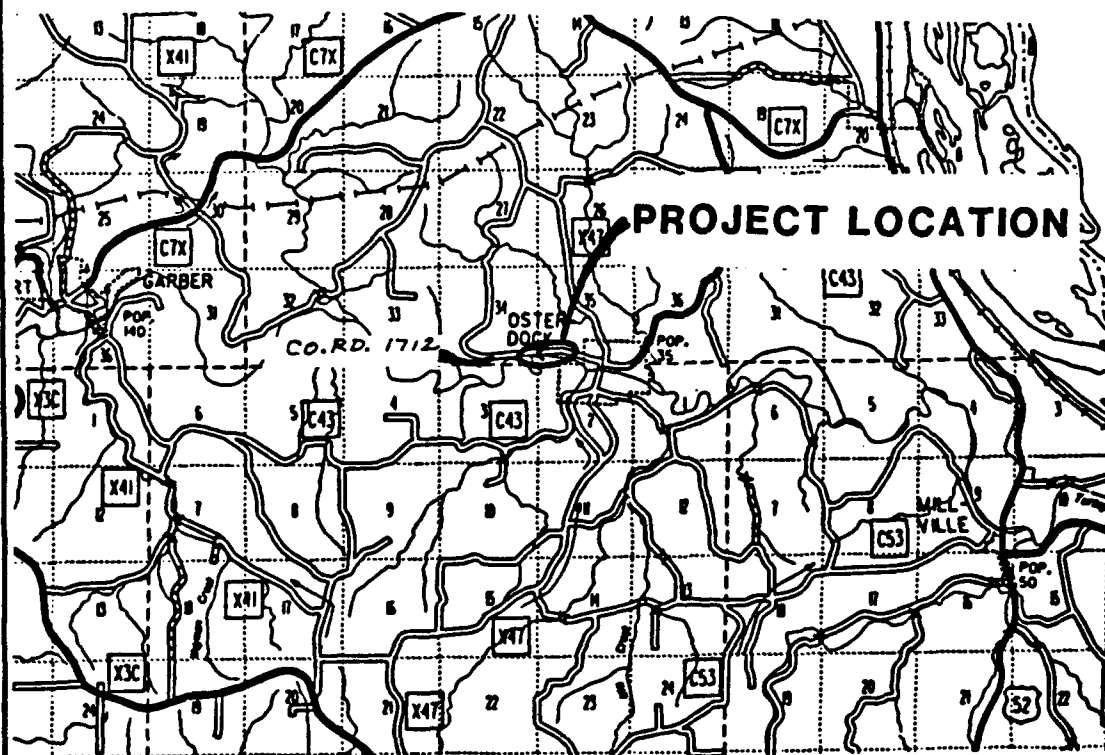
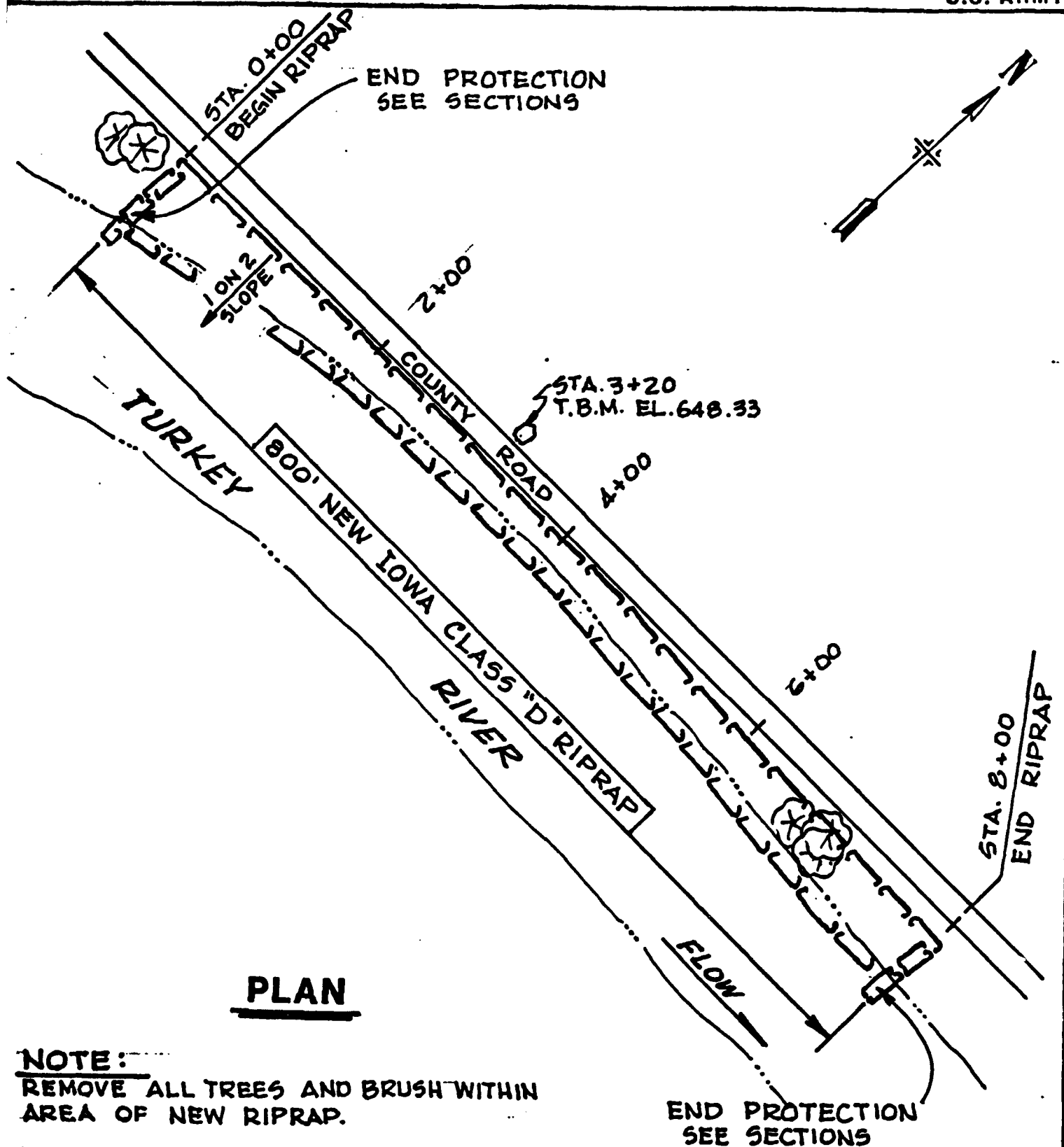


PLATE 1

**TURKEY RIVER  
CLAYTON COUNTY, IOWA**

**SITE - 2 COUNTY ROAD  
NORTHWEST AT OSTERDOCK**

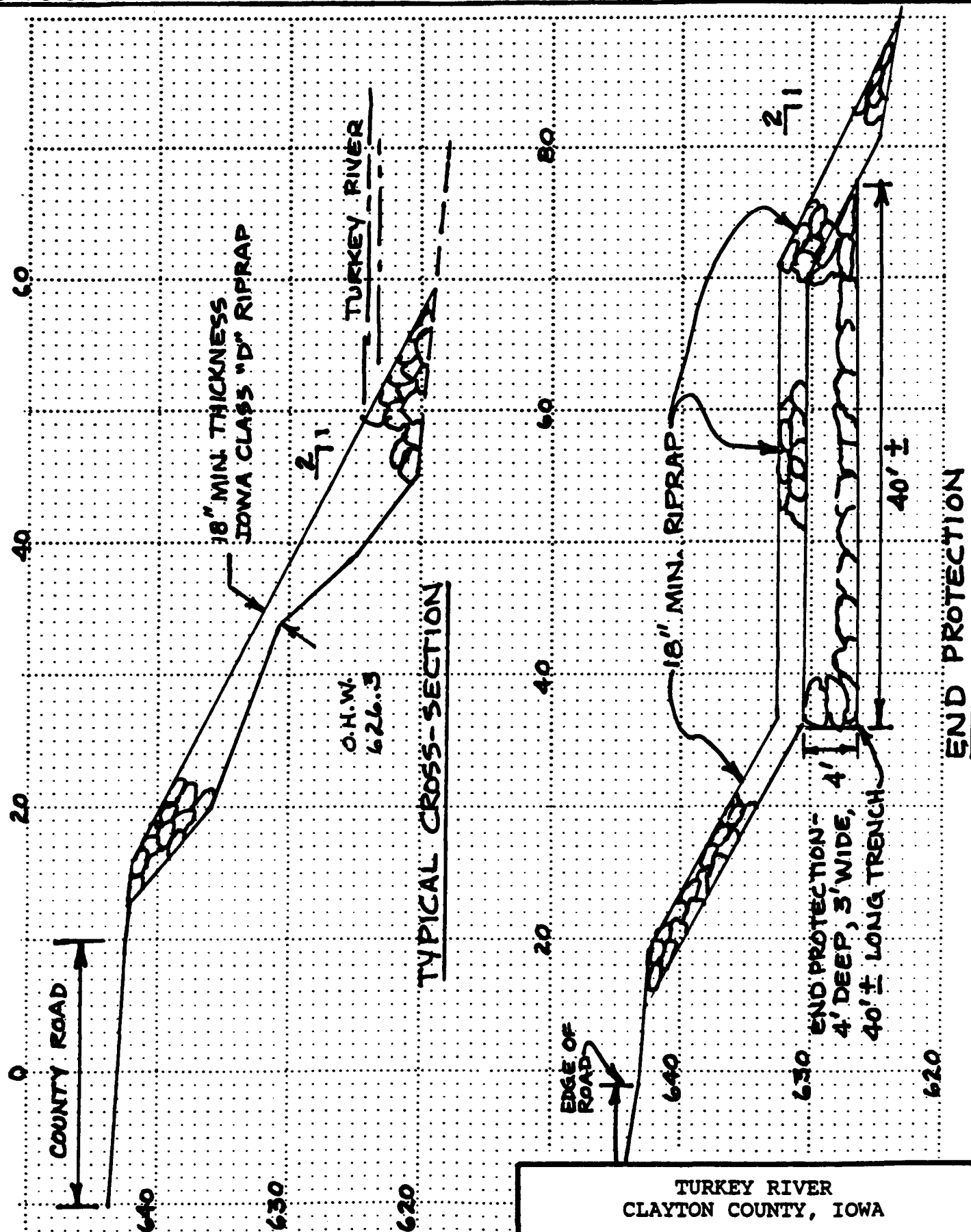
**AREA AND LOCATION MAPS**

**PLAN****NOTE:**

REMOVE ALL TREES AND BRUSH WITHIN AREA OF NEW RIPRAP.

TURKEY RIVER  
CLAYTON COUNTY, IOWA  
SITE 2 - COUNTY ROAD  
NORTHWEST AT OSTERDOCK

PLAN PLATE 2



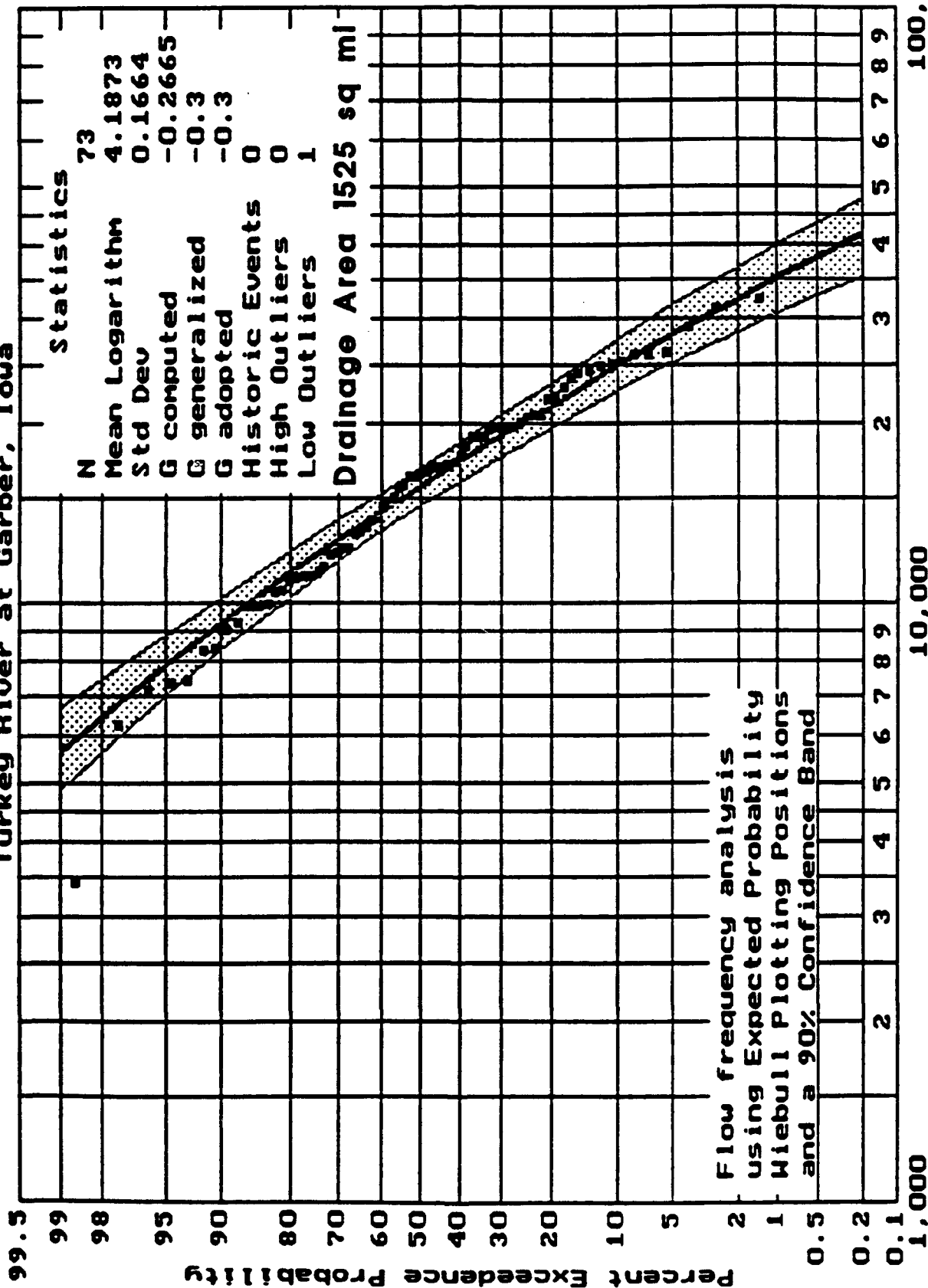
TURKEY RIVER  
CLAYTON COUNTY, IOWA

SITE 2 - COUNTY ROAD  
NORTHWEST AT OSTERDOCK

TYPICAL CROSS-SECTION

PLATE 3

# Turkey River at Garber, Iowa





**SECTION 404(b)(1) EVALUATION**

**A**

**P**

**P**

**E**

**N**

**D**

**I**

**X**

**A**

**DETAILED PROJECT REPORT  
AND ENVIRONMENTAL ASSESSMENT  
FOR  
SECTION 14 EMERGENCY STREAMBANK PROTECTION**

**TURKEY RIVER  
CLAYTON COUNTY ROAD 1712  
OSTERDOCK, IOWA**

**APPENDIX A  
CLEAN WATER ACT  
SECTION 404(b)(1) EVALUATION**

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**DETAILED PROJECT REPORT  
AND ENVIRONMENTAL ASSESSMENT  
FOR  
SECTION 14 EMERGENCY STREAMBANK PROTECTION**

**TURKEY RIVER  
CLAYTON COUNTY ROAD 1712  
OSTERDOCK, IOWA**

**APPENDIX A  
CLEAN WATER ACT  
SECTION 404(b)(1) EVALUATION**

**SECTION 1 - PROJECT DESCRIPTION**

**LOCATION**

The project site is located along the left descending bank of the Turkey River adjacent to County Road 1712, approximately one-half mile west-northwest (upstream) of Osterdock, Jefferson Township, Clayton County, Iowa, sec. 34 and 35, T. 92 N., R. 3 W. (plate 1 of the main report).

**GENERAL DESCRIPTION**

This project will provide erosion protection for the threatened area by riprapping 800 linear feet of embankment between the river and the road edge. Iowa Class "D" riprap will be placed along the bank and shaped to an approximately 2H on 1V slope. Riprap will be no less than 18 inches thick. Rock will be placed approximately 16 vertical feet above the ordinary high water mark. Plate 3 of the main report shows a cross section of the project design.

**AUTHORITY AND PURPOSE**

The purpose of this action is to provide streambank protection to County Road 1712 adjacent to the Turkey River west-northwest of Osterdock, Iowa. Protection is needed to prevent loss of the road resulting from the erosional forces of the river.

The authority for this study and report is Section 14 of the 1946 Flood Control Act, as amended by the Water Resources Development Act of 1986 (Public Law 99-662).

#### GENERAL DESCRIPTION OF DREDGED OR FILL MATERIAL

Approximately 3,333 cubic yards of riprap and bedding rock will be used. Riprap will consist of quarried stone (generally limestone), and bedding rock will be smaller-sized rock. Both riprap and bedding rock will be chemically stable, natural stone obtained from an approved commercial source.

#### DESCRIPTION OF PROPOSED PLACEMENT SITE

Riprap will be placed along 800 linear feet of County Road 1712, adjacent to the Turkey River shoreline.

The National Wetlands Inventory map shows two wetland habitat types present in the upstream half of the project: (a) Palustrine, emergent, seasonally flooded (PEMC); and (b) Palustrine, forested (broad-leaved deciduous), temporarily flooded (PF01A). However, ground truthing revealed that these two habitat types do not now exist on the project site. A corn field was observed at this portion of the project. It is uncertain whether the area was cleared for the corn field or the area was cleared/degraded from repeated high water events. For whatever reason, the two aforementioned habitat types do not now exist at the project location.

The vegetation of the affected area consists of grasses and forbs typical for disturbed roadside areas. For a detailed description, refer to the Natural Resources section of the Environmental Assessment in the main report.

#### DESCRIPTION OF PLACEMENT METHOD

Riprap will be moved directly to the site by truck. A backhoe or other conventional construction equipment will be used to adjust and shape the materials to the correct dimensions.

## **SECTION 2 - FACTUAL DETERMINATIONS**

### **PHYSICAL SUBSTRATE DETERMINATIONS**

The substrate of the Turkey River at the project location is mostly silty sand with scattered areas of rock and gravel.

Given the size of Class "D" riprap, downstream movement of fill material is anticipated to be negligible. Past experience with this size riprap for bank stabilization further substantiates this claim.

### **WATER CIRCULATION, FLUCTUATION, AND SALINITY DETERMINATIONS**

#### **WATER**

The Turkey River is a fresh water lotic system. The riprap to be used is basically an inert material that will have little effect on water chemistry. Water clarity, odor, taste, salinity, and dissolved gas levels will not be changed appreciably. The nature of the fill will not cause any changes in nutrient levels.

#### **CURRENT PATTERNS AND CIRCULATION**

Riprap will be placed along the road embankment. Approximately 20 feet of the streambed will be covered by riprap for a distance of about 400 linear feet, or about half of the total project distance. Approximately 2.3 y<sup>3</sup>/linear foot of riprap will be placed below the ordinary high water level of 626.3 feet NGVD. Current patterns, circulation, and velocity should not be noticeably affected.

#### **NORMAL WATER LEVEL FLUCTUATIONS**

The proposed riprap will be aligned to fit along the road embankment/river bank. It will not cause any changes in the natural water levels of the river, nor will it cause any noticeable changes in fluctuation levels immediately upstream or downstream.

#### SUSPENDED PARTICULATE/TURBIDITY DETERMINATIONS

There will be minor increases in turbidity during construction. However, these increases will be temporary and turbidity levels will return to normal upon completion of the project. Post-construction turbidity levels may actually be lower than pre-construction levels since bank erosion at the project location will be all but eliminated.

#### CONTAMINANT DETERMINATIONS

Riprap will be chemically stable and noncontaminating rock obtained from an approved commercial source. No known contaminated substrate will be disturbed.

#### AQUATIC ECOSYSTEM AND ORGANISM DETERMINATIONS

Fish within the project area will temporarily disperse during construction. Construction activities will be scheduled to avoid the spring spawning season. No unique fishery exists within the project area. No mussel specimens were noted for the immediate project site, making it unlikely that any significant impact will occur to mussel populations. Riprap placement will increase benthos mortality, although reestablishment of benthic populations is expected after project completion. The placement of riprap should have little effect on plankton, nekton, or the aquatic food web.

Riprap provides crevices and spaces for small fish and invertebrates which may lead to increased in-stream biodiversity.

There will be no noticeable effect on special aquatic sites. No sanctuaries, refuges, wetlands, mudflats, or vegetated shallows will be affected.

An evaluation of Federal and State endangered species is presented in the Environmental Assessment in the main report.

In an effort to minimize impacts, the minimum amount of riprap necessary to prevent the loss of the road will be used. Construction will take place under low water conditions to minimize disturbance to the substrate.

#### PROPOSED PLACEMENT SITE DETERMINATIONS

The mixing of materials into the water will be minimal. The riprap fill will consist of large rock. Construction will take place under low water conditions.

No violations to water quality standards should occur. The application for State certification under Section 401 of the Clean Water Act has been submitted.

Aesthetic impacts are not anticipated to be significant. The riprap will extend from the edge of the road approximately 20 feet into the streambed where the river channel abuts the road. Where the river channel veers away from the road, the riprap will extend 45 feet from the road's edge on the floodway. A portion of the project site currently contains unvegetated rock/dirt fill that was used to provide emergency protection for the road.

The proposed project should have no effect on human use activities. No municipal or private water supplies will be affected. Recreational or commercial activities should not be negatively impacted. No parks, national or historic monuments, wilderness areas, preserves, or research sites are within the project area.

#### DETERMINATION OF THE CUMULATIVE AND SECONDARY EFFECTS ON THE AQUATIC ECOSYSTEM

The placement of riprap will cause a small amount of disturbance to the Turkey River shoreline area. Upon completion of the project, both aquatic and terrestrial organisms will repopulate the site from adjacent areas. No significant cumulative or secondary effects should occur.

**SECTION 3 - FINDINGS OF COMPLIANCE OR NONCOMPLIANCE  
WITH THE RESTRICTIONS ON PLACEMENT**

1. No significant adaptations to the guidelines were made relating to this evaluation.
2. The alternative of no Federal action was not feasible because it did not provide for erosion protection for the county road.
3. Certification under Section 401 of the Clean Water Act has been applied for and will be received from the State of Iowa prior to construction.
4. The project will not introduce toxic substances into nearby waters or result in appreciable increases in existing levels of toxic materials.
5. No significant impacts to Federal or State-listed endangered or threatened species will result from this project.
6. The proposed project is in a fresh water inland river system. No marine sanctuaries are involved.
7. No municipal or private water supplies will be affected. Minor impacts will result from the construction site; however, no sensitive or critical habitats will be affected, and no long-term impacts will occur.
8. Project construction materials will be physically and chemically stable.
9. The proposed actions will not significantly affect water quality or the aquatic ecosystem and are in compliance with the requirements of guidelines for Section 404(b)(1) of the Clean Water Act, as amended.

---

Date

John R. Brown  
Colonel, U.S. Army  
District Engineer



**PERTINENT CORRESPONDENCE**

**A**

**P**

**P**

**E**

**N**

**D**

**I**

**X**

**B**



TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES  
LARRY J. WILSON, DIRECTOR

District Engineer  
U.S. Army Engineer District, Rock Island  
ATTN. Planning Division  
Clock Tower Building - P.O. Box 2004  
Rock Island, Illinois 61204-2004

24 July 1991

Dear Mr. Hanson:

Thank you for inviting our comments on the environmental impact of five Section 14 Emergency Streambank Protection projects on the Turkey River in Clayton County.

I have searched maps and computer records of the project areas and consulted with other Bureau staff members. At this time, the Preserves and Ecological Services data base contains no records of rare species or significant natural communities in the project areas.

Please note that the lack of records in specific areas does not necessarily mean that rare species or significant natural communities are absent. Our data are not the result of thorough field surveys and should not be considered a substitute for on-site inspection.

This letter does not constitute a Department permit. Before this project may proceed, you may need to obtain permits from various Bureaus of this and other state and federal departments.

If you have any questions about this letter or if you require further information, please contact me.

Sincerely,

John Fleckenstein  
Bureau of Preserves and  
Ecological Services



# State Historical Society of Iowa

The Historical Division of the Department of Cultural Affairs

September 18, 1991

In reply refer to:  
R&C#: 910922045

Dudley M. Hanson, P. E.  
Chief, Planning Division  
Rock Island District Corps of Engineers  
Clock Tower Building  
P. O. Box 2004  
Rock Island, IL 61204-2004

RE: EMERGENCY STREAMBANK STABILIZATION - FOUR LOCATIONS ALONG TURKEY RIVER

Dear Mr. Hanson:

Based on the information you provided, we find that there are no historic properties which might be affected by the proposed undertaking. Therefore, we recommend project approval.

However, if the proposed project work uncovers an item or items which might be of archeological, historical or architectural interest, or if important data come to light in the project area, you should make reasonable efforts to avoid or minimize harm to the property until the significance of the discovery can be determined.

Should you have any questions or if the office can be of further assistance to you, please contact the Review & Compliance program at 515-281-8743.

Sincerely,

Kathy Gourley  
Archeologist, Review and Compliance Program  
Historic Preservation Bureau

/st

cc: Ron Pulcher  
Adrian Anderson

☐ 402 Iowa Avenue  
Iowa City, Iowa 52240  
(319) 335-3916

☐ Capitol Complex  
Des Moines, Iowa 50319  
(515) 281-5111

☐ Montauk  
Box 372  
Clermont, Iowa 52135  
(319) 423-7173

## CONVERSATION RECORD

TIME

1100

DATE

9/19/91

TYPE

☐ VISIT☐ CONFERENCE☒ TELEPHONE☐ INCOMING☒ OUTGOING

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Mike Bronoski

ORGANIZATION (Office, dept., bureau, etc.)

USEPA - Kansas City

TELEPHONE NO.

3641 FTS  
8-276-7291

SUBJECT

4 Section 14 Projects in Clayton County, Iowa —  
Coordination with USEPA, Region 7

SUMMARY

I called Mike to obtain his agency's comments regarding the subject. I had faxed him an informational sheet and maps of the project sites at 0930 this morning. (Attached.)

Mike said that his agency has two primary focuses of concern: toxic and hazardous wastes (if any) and impacts to wetlands. He indicated that he was aware that we normally address such concerns in the project EA, but he wanted to remind us that EPA will be reviewing the EAs with these issues in mind. Mike also mentioned that the Region 7 office now has a Wetlands Protection Section which will be part of EPA's review team for all NEPA and 404 documents.

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

DATE

Charlene Carmack

Charlene Carmack

9/19/91

ACTION TAKEN

SIGNATURE

TITLE

DATE

CONVERSATION RECORD			TIME 1330	DATE 2 Oct 91																
TYPE <input type="checkbox"/> VISIT <input type="checkbox"/> CONFERENCE <input checked="" type="checkbox"/> TELEPHONE <div style="text-align: right; padding-right: 20px;"> <input type="checkbox"/> INCOMING  <input checked="" type="checkbox"/> OUTGOING           </div>			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center; padding: 2px;">ROUTING</th> </tr> <tr> <th style="width: 80%; padding: 2px;">NAME/SYMBOL</th> <th style="width: 20%; padding: 2px;">INT</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> </tbody> </table>		ROUTING		NAME/SYMBOL	INT												
ROUTING																				
NAME/SYMBOL	INT																			
Location of Visit/Conference:																				
NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU <div style="font-size: 1.2em; font-family: cursive;">Don Menken</div>	ORGANIZATION (Office, dept., bureau, etc.) <div style="font-size: 1.2em; font-family: cursive;">Clayton County Conservation Board</div>	TELEPHONE NO. <div style="font-size: 1.2em; font-family: cursive;">319 245 1516</div>																		
SUBJECT <div style="font-size: 1.2em; font-family: cursive;">4 Section 14 - Emergency Streambank Protection from Turkey River erosion</div>																				
SUMMARY <div style="font-size: 1.2em; font-family: cursive;"> <p>Informed Mr. Menken of emergency nature of these projects</p> <p>② Legal description of (location) of all projects</p> <p>③ Corrective action: clean, shape, riprapping</p> <p>④ Lengths of streambank to be riprapped</p> <p>⑤ Vegetation impacted at each location.</p> <p>Mr. Menken said he would review the Project Report when it comes out for public review, but as of now he had no comments or objections.</p> </div>																				
ACTION REQUIRED																				
NAME OF PERSON DOCUMENTING CONVERSATION <div style="font-size: 1.2em; font-family: cursive;">Donn McSwine</div>	SIGNATURE <div style="font-size: 1.2em; font-family: cursive;">Donn Ivan McSwine</div>	DATE <div style="font-size: 1.2em; font-family: cursive;">2 Oct 91</div>																		
ACTION TAKEN																				
SIGNATURE	TITLE	DATE																		

## CONVERSATION RECORD

TIME

10:00 AM

DATE

2 Oct 91

TYPE

☐ VISIT☐ CONFERENCE☒ TELEPHONE☐ INCOMING☒ OUTGOING

ROUTING

NAME/SYMBOL

INT

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

DARRYL HAYES

ORGANIZATION (Office, dept., bureau, etc.)

IDNR

TELEPHONE NO.

515-2818675

SUBJECT

4 Sec. 14's in Clayton County, Iowa (Turkey River erosion)

SUMMARY

Informed Mr. Hayes of 1) Legal descriptions (location); 2) lengths to be riprapped; 3) Vegetation to be disturbed by projects; 4) emergency nature of projects.

Informed Mr. Hayes early coordination w/ IDNR on the absence of any known threatened, endangered, or special concern species at any of project location.

Mr. Hayes responded that he would consult with IDNR floodplain management people and get back with me.

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION

Lonn McGuire

SIGNATURE

Lonn McGuire

DATE

2 Oct. 91

ACTION TAKEN

SIGNATURE

TITLE

DATE

-----

CONVERSATION RECORD	:TIME	:DATE
	:1115	:10 October 1991
-----		
TYPE	( ) VISIT ( ) CONFERENCE (x) TELEPHONE	: ROUTING
	(x) INCOMING	:-----
	( ) OUTGOING	:NAME :INT
-----		
NAME CONTACTED	:ORGANIZATION :TELEPHONE	:PD :
	:National Park:	✓ PD-E :
Jill Medland	:Service : (402) 221-3481	:PD-F :
-----		
SUBJECT: Emergency Streambank Protection	:	:
Section 14, Turkey River, Clayton County, Iowa	:	:
	:	:
	:	:
	:	:

-----

**SUMMARY:**

1. Ms. Medland was returning her response to a coordination/information package I sent her concerning the above subject. I was coordinating this project for potential impacts as described in the National Wild and Scenic Rivers Act, as amended.

2. She stated that she will formally comment on the proposed projects during the 30-day public comment period.

-----  
**ACTION REQUIRED**

NAME OF PERSON	:SIGNATURE	:DATE
DOCUMENTING CONVERSATION:	:	:
Joseph W. Jordan	: 	:10 October 1991

=====

**ACTION TAKEN**

SIGNATURE	:TITLE	:DATE
	:	:
	:	:
50271-101	CONVERSATION RECORD	(12-76)

## CONVERSATION RECORD

TIME  
0830DATE  
21 Oct 91

TYPE

☐ VISIT☐ CONFERENCE☒ TELEPHONE☐ INCOMING☒ OUTGOING

ROUTING

NAME/SYMBOL

INT

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT  
WITH YOU

Darryl Hayes

ORGANIZATION (Office, dept., bureau,  
etc.)

IOWA DNR

TELEPHONE NO.

515 281 8675

SUBJECT

Clayton County / Turkey River Section 14: (4)

SUMMARY

Mr. Hayes said that Iowa had no problems/objections to these projects as long as clean riprap was used. I relayed to him that clean class "D" riprap would ~~be~~ be used.

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION

Lonn J. McShuie

SIGNATURE

Lonn J. McShuie

DATE

21 Oct 91

ACTION TAKEN

SIGNATURE

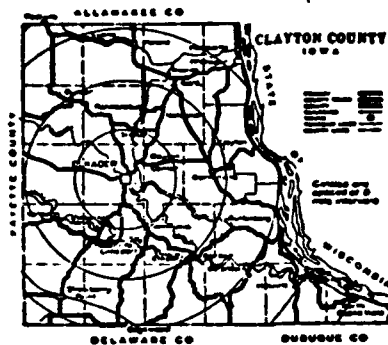
TITLE

DATE





THURN, Asst. to the County Engineer  
CONNOR, Office Manager  
RINNE BRASE, Bookkeeper

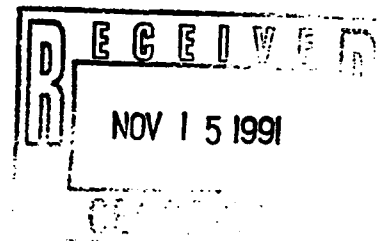


**JERRY J. WEBER, P.E.**  
**COUNTY ENGINEER**  
**CLAYTON COUNTY**  
**LETTER OF ASSURANCE**

Office Phone 319-245-1782  
P.O. Box 456  
ELKADER, IOWA 52043

November 13, 1991

Colonel John R. Brown  
District Engineer  
U.S. Army Engineer District,  
Rock Island  
Clock Tower Building, P. O. Box 2004  
Rock Island, IL 61204-2004



Dear Colonel Brown:

Clayton County has reviewed the draft of the proposed Local Cooperation Agreement covering streambank erosion control on the Turkey River, Section 35, T92N, R3W, Jefferson Township. The Agreement includes the following obligations to be carried out by Clayton County.

a. Provide, without cost to the Government, during the period of construction, all lands, easements, rights-of-way and dredged material disposal areas, and perform all relocations and alteration of buildings, utilities, highways, railroads, bridges (except railroad bridges), sewers, and related and special facilities determined by the Government to be necessary for construction of the project.

b. Make a cash payment of not less than 5 percent of total project costs during the period of construction, regardless of the value of the items in a. above. If the value of the items in a. above is less than 20 percent of total project costs, Clayton County shall, during the period of construction, make such additional cash payments as are necessary to bring its total contribution in cash and value of lands, easements, rights-of-way, and utility and facility alterations and relocations, to an amount equal to 25 percent of total project costs.

c. Pay all project costs in excess of the Federal statutory limitation of \$500,000.

d. Hold and save the Government free from all damages arising from the construction, operation, and maintenance of the project, except for damages due to the fault or negligence of the Government or its contractors.

e. Operate, maintain, replace, and rehabilitate the project or functional element thereof upon completion in accordance with regulations or directions prescribed by the Government.

f. Comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, approved January 2, 1971, in acquiring lands, easements, and rights-of-way for construction and subsequent operation and maintenance of the project, and inform all affected persons of applicable benefits, policies and procedures in connection with said Act.

g. Comply with Section 601 of Title VI of the Civil Rights Act of 1964 (Public Law 88-352) and Department of Defense Directive 5500.11 issued pursuant thereto and published in Part 300 of Title 32, Code of Federal Regulations, as well as Army Regulation 600-7, entitled "Non-Discrimination on Basis of Handicap and Programs and Activities Assisted or Conducted by the Department of the Army".

h. Participate in and comply with applicable Federal flood plain management and flood insurance programs.

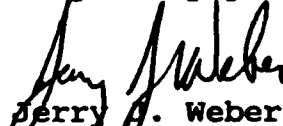
i. Prior to construction, and in accordance with the provisions of Section 221 of Public Law 91-611, Clayton County will enter into a contract with the Government whereby Clayton County will grant the Government a right to enter, at reasonable times and in a reasonable manner, upon land which Clayton County owns or controls for access to the project for the purpose of inspection, and, if necessary for the purpose of completing, operations, repairing, maintaining, replacing or rehabilitating the project. If an inspection shows that Clayton County for any reason of failing to fulfill its obligations under the Agreement without receiving prior written approval from the Government, the Government will send written notice to Clayton County. If Clayton County persists in such failure for 30 calendar days after receipt of notice, then the Government shall have a right to enter, at reasonable times and in a reasonable manner, upon lands Clayton County owns or controls for access to the project for the purpose of completing, operating, repairing, maintaining, replacing or rehabilitating the project. No completion, operation, repair, maintenance, replacement, or rehabilitation by the Government shall operate to relieve Clayton County of responsibility to meet its obligations as set forth in the Agreement, or to preclude the Government from pursuing any other remedy at law or equity to assure faithful performance pursuant to the Agreement.

Clayton County is willing and able to pay its share of the

total project costs. Sufficient funds are available within Clayton County Secondary Road Fund and the cash payment can be deposited directly with the Government upon demand by the Government.

This is to advise that if the Definite Project Report for this project is approved substantially in its present form as reviewed by Clayton County and as submitted for approval by the Corps of Engineers' higher authority, Clayton County is willing, and legally and financially able, to sign the referenced Local Cooperation Agreement which includes the obligations set forth above.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Jerry A. Weber". The signature is fluid and cursive, with the first name "Jerry" and last name "Weber" clearly distinguishable.

Jerry A. Weber, P.E.  
Clayton County Engineer

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SECTION 14 EMERGENCY STREAMBANK PROTECTION

TURKEY RIVER, CLAYTON COUNTY ROAD 1712

OSTERDOCK, IOWA

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